

ECOLOGICAL ASPECTS OF BILL SIZE VARIATION
IN TWO POPULATIONS OF LAYSAN FINCHES*

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The Laysan finch (Telespyza cantans), a member of the Drepanidinae or Hawaiian honeycreepers, is endemic to the island of Laysan in the Northwestern Hawaiian Islands. Due to its limited distribution, historical population declines, and other factors, the species is considered endangered. In an attempt to increase the species' survival potential, the U.S. Fish and Wildlife Service introduced 110 birds to Pearl and Hermes Reef, an atoll in the Northwestern Hawaiian Islands, in 1967. In 1984 and 1985, 298 birds were banded and measured at Pearl and Hermes Reef, and in 1985, 278 birds were banded and measured at Laysan Island. Analysis of the data shows that some significant differences in bill size and shape, independent of body size variation, exist between the two populations. Whether or not these differences are the result of genetic drift, natural selection, or environmental factors is not known. Currently we are testing the hypothesis that diet and food availability may act as selective agents favoring certain morphological changes. Heritability of characters and within- and between-population genetic variation are also being examined.

*ABSTRACT